

## **RENEWABLE ENERGY ASSESSMENT THRESHOLD ANALYSIS 2008 Assessment Year**

This study documents the research, analysis and final conclusions used by the Division of Property Taxation (Division) in establishing the Renewable Energy Assessment Threshold as required by Colorado Revised Statutes. The Threshold Analysis is to be used as the valuation threshold for valuation of wind farms and solar electric generating systems and/or facilities by the Division, and is part of the valuation process for wind energy facilities defined under § 39-4-101 (4), C.R.S.

### **STATUTORY REFERENCES**

Colorado Revised Statutes require all renewable energy facilities, excluding wind energy facilities, be valued as follows:

#### **Valuation of public utilities.**

*(1)(e) When determining the actual value of a renewable energy facility that primarily generates electricity, the administrator shall consider the additional incremental cost per kilowatt of the construction of the renewable energy facility over that of the construction of a comparable nonrenewable energy facility that primarily generates electricity to be an investment cost and shall not include such additional incremental cost in the valuation of the facility. For the purpose of this paragraph (e), "renewable energy" has the meaning provided in section 40-1-102 (6), C.R.S. For purposes of this paragraph (e), "renewable energy" shall not include energy generated from a wind energy facility.*

**§ 39-4-102, C.R.S.**

The citation in the above statute defining renewable energy is in error and should be 40-1-102 (11), C.R.S.

Renewable energy is defined in Colorado statutes.

#### **Definitions.**

*(11) "Renewable energy" means useful electrical, thermal, or mechanical energy converted directly or indirectly from resources of continuous energy flow or that are perpetually replenished and whose utilization is sustainable indefinitely. The term includes, without limitation, sunlight, the wind, geothermal energy, hydrodynamic forces, and organic matter available on a renewable basis such as forest residues, agricultural crops and wastes, wood and wood wastes, animal wastes, livestock operation residue, aquatic plants, and municipal wastes.*

**§ 40-1-102, C.R.S.**

Wind energy facilities are separately defined in Colorado statutes.

#### **Definitions.**

*(4) "Wind energy facility" means a new facility first placed in production on or after January 1, 2006, that uses property, real and personal, including one or more wind turbines, leaseholds, and easements, to generate and deliver to the interconnection meter any source of electrical or mechanical energy by harnessing the kinetic energy of the wind.*

**§ 39-4-102, C.R.S.**

## STATE ASSESSED PUBLIC UTILITY PROPERTIES SUBJECT TO RENEWABLE ENERGY THRESHOLD VALUATION

As of January 1, 2008, Colorado will have four (4) wind farms assessed in Colorado

Name	Capacity in Kilowatts (kW)
Colorado Green	162,000
Ridgecrest Wind Partners	29,700
Ponnequin – Phase II & III (Xcel)	26,400
Ponnequin – Phase I	5,250

Colorado also has one (1) Wind Energy Facility (WEF), as defined under 39-4-101 (4), C.R.S.

Spring Canyon Energy, LLC.	60,000
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For the 2008 assessment year, the Division is aware of four (4) WEFs that will be filing for the first time. With regard to solar electrical generation facilities, the Division is aware of at least five (5) systems or facilities that are subject to state assessment for 2008. We are unable to determine any additional information regarding the capacity of the new WEFs or solar systems until we receive the Annual Statement of Property for each facility and/or system.

## DETERMINATION OF COMPARABLE COSTS OF NON-RENEWABLE ENERGY FACILITIES

### Establishing Comparables for the Study

As required by § 39-4-103 (1)(e), C.R.S., the Division determined that construction costs of simple and combined-cycle, natural-gas fired independent power producers (IPPs) are used to measure “comparable costs of non-renewable energy facilities for the purposes of the Renewable Energy Assessment Cost Threshold study. All nonrenewable simple cycle energy facility constructions costs, inclusive of direct and indirect costs, are used in the study.

### Comparable Data Collection

The Division gathered research on nonrenewable facility costs from the following sources:

1. U. S. Energy Information Agency (EIA) – Combined (Utility, Non-Utility, and Combined Heat and Power Plant Database (Forms EIA-906/920 databases)
2. Actual simple and combined cycle equipment cost estimates from the 2007-2008 Gas Turbine World Handbook. Since these numbers represented equipment cost only, a forty percent (40%) additional cost was added for installation costs, siting costs, and other development costs necessary to construct an operating facility.

### Analysis of Source Information

Threshold rates for 2008 were determined primarily through analysis of Gas Turbine World Equipment Cost Information as adjusted by the Division for installation and siting costs. We also used U. S. Energy Information Agency (EIA) Total Overnight Costs – Conventional Combustion Turbine (Simple Cycle) costs to establish the value for renewable energy facilities exceeding 100 MWs in size.

In prior study years, we also utilized reported construction costs from recently constructed simple and combined-cycle IPPs as part of the Colorado Annual Statements of Property. However in the last three years, there has been no newly constructed Colorado gas fired turbine facilities to use in our comparison study.

Discussion in prior years, with several local gas-fired turbine developers, indicates that the direct and indirect costs of installation and development costs (siting) of a gas-fired turbine facility can add between 40% and 100% in addition to the acquisition cost of the equipment. To reflect the total cost to construct a comparable nonrenewable electrical generation facility, as referenced in § 39-4-102 (1) (e), C.R.S., a 40% factor was added.

Colorado statute § 39-4-101 (1)(b), C.R.S., requires that intangible assets, such as renewable energy credits, be valued in addition to tangible real and personal property used by the renewable energy provider. However, it is our understanding that the renewable energy credits are sold or transferred to the electrical service provider as part of the overall rate paid for power under the Purchase Power Agreement between the renewable energy provider and the electric company. Because the renewable energy credits are not likely to be sold separately, except under unique situations, we will not be separately assessing the renewable energy credits.

### **Recommendation for Renewable Energy Assessment Cost Threshold Values**

<b>2008 Renewable Energy Assessment Cost Threshold Values</b>	
<b>Plant Size per MW</b>	<b>Threshold Rate per KW</b>
<b>Up to 5 MW</b>	<b>\$1008</b>
<b>5 to 10 MW</b>	<b>\$640</b>
<b>10.01 to 50 MW</b>	<b>\$601</b>
<b>50.01 to 100 MW</b>	<b>\$451</b>
<b>100.01 MW and above</b>	<b>\$420</b>

For all renewable energy facilities, excluding Wind Energy Facilities defined pursuant to § 39-4-102 (4), C.R.S., the above threshold rates establish the maximum value per kilowatt for the facility.

For Wind Energy Facilities, the above threshold rates will be used in the calculation to establish the tax factor as defined and applied pursuant to § 39-4-102 (1.5) (b) (IV), C.R.S.